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RECEIVEDWHAT 4-H CLUB MEMBERS LEARN ABOUT COMBATTING PESTS AND INSECTS - 1936 ★

A radio talk by A. B. Graham, U. S. Department of Agriculture,
 delivered in the National 4-H Club Radio Program, July 4, 1936, and broadcast
 by a network of 55 associate NBC radio stations.

We are celebrating our Independence today, July 4th. In 1775 we had some notions about how we should be treated by another nation. So it is in the insect world. The insects are battling with each other endlessly for a place to live and something to eat. They also battle with the weather and with man.

If man had no thinking machine, probably the balance between insects, plants and other forms of life would be more even. He is partly to blame for giving them new feeding areas by extending gardens, enlarging wheat fields, and increasing orchards and berry patches. When man cultivated the western plains and planted potatoes he opened the way for the Colorado potato beetle to fly or be blown across to the new potato patches and from one to the other he kept coming eastward. I remember well when there were no Colorado potato beetles in the Central States. The old-fashioned long striped blister or potato beetle could be scared out of the patch by beating the vines with a brush or branch from a tree, but when this was tried on the Colorado potato beetle he acted just like a 'possum. He fell on the ground and awaited his opportunity to climb back on the vine and eat again. When man observed his very ravenous appetite, he sought to control him by putting a little Paris Green on his potato leaf salad. When Mr. Bug ate it he soon died from a case of stomach poisoning.

So it is that other insects must be controlled by man who, in order to take advantage of them, watches to see how they feed, where they lay their eggs and where they spend their winters.

Ants are very fond of little green insects that we call plant lice. By stroking the lice the ants get them to yield a sweet substance which they feed on. They are sometimes called the ants' cows. Thus the ant depends on the lice for some of his food supply, but the green plant lice must have food too, so they stick their bills into the tender leaves. Now, what does a bill care about poison on a leaf? It pushes right through the poison into the tissues of the leaf just as you would push a straw through the froth of a glass of ice cream soda. You suck the cream from below the froth. The sucking insects pay no attention to poisons, but man has learned that they breathe through little holes along the sides of their bodies. Man sprays the plant lice or sucking insects with an oily soap preparation which stops up the breathing holes. Some of these substances paralyze them. Man has learned that the Hessian fly which lays its eggs on the young wheat plants will make a fizz of the job if the farmer doesn't plant his wheat soon enough for the plants to come up within the egg laying period. So in many parts of the fall wheat growing States "fly free" dates have been established. The Hessian fly is dead. All of these plans are man's schemes for stealing a march on these insects. But Nature does much more than man in controlling insects.

Man fall plows sod and thereby exposes many eggs and other insect forms to the freezing winter periods. Man may clean up the brush and grass from fence rows and similar places and thus destroy the winter sleeping quarters of many insects. But nature kills thousands of insects by weather that is either too wet or too dry for them. When the young are first hatched it may freeze them to death in places where man never touches a plow or spade.

Nature has her own force of insects that prey on others. The lady bug that crawls on plants is hunting for plant lice. I once saw a man using a paddle to kill these very bugs on his plum tree. When asked what he was doing he said he was killing those pesky bugs, hundreds of which were on his tree. When asked if he knew what they were doing, he replied that they were probably eating the bark on the tree. When he was helped to see that they were eating the eggs or young form of the insects that were harming his tree, with due apology he laid the paddle down. Have you ever seen these big green tomato or tobacco worms? Some times on their backs will be very small cocoons sticking straight up. These mean the death of the worm for Nature has her own way of destroying the big green worm when the little worms hatch from these white cocoons attached to its back. Yes, Nature has her way of asserting her independence too, in order to try to keep her family in balance. It may not be just as man would balance it. Man may have to step in and help Nature a great deal, especially where grasshoppers that chew and bugs that suck assert themselves too ravenously against our food supplies. In closing I am reminded of a little couplet:

"Little bugs have other bugs
Upon their backs to bite 'em
And these in turn have other bugs
And so on ad infinitum."